

Snrpb Cas9-KO Strategy

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Project Overview

Project Name

Snrpb

Project type

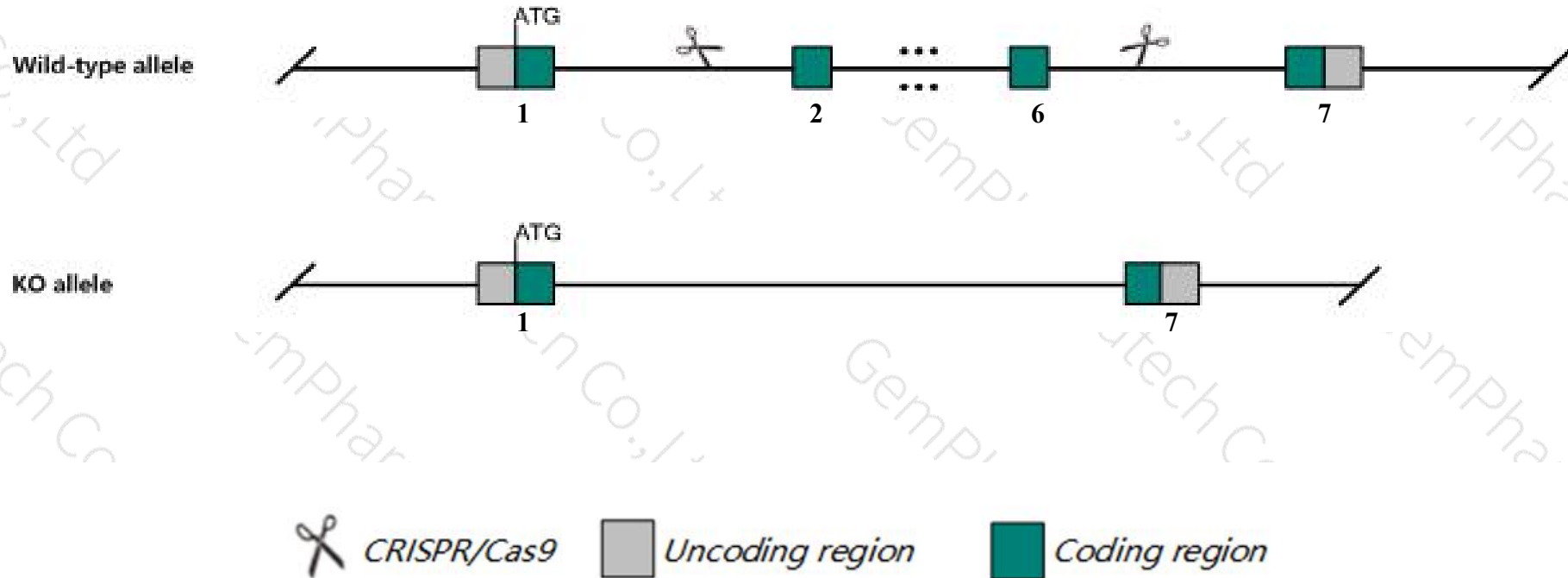
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Snrpb* gene. The schematic diagram is as follows:



- The *Snrpb* gene has 4 transcripts. According to the structure of *Snrpb* gene, exon2-exon6 of *Snrpb-201* (ENSMUST00000103199.8) transcript is recommended as the knockout region. The region contains 682bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Snrpb* gene. The brief process is as follows: CRISPR/Cas9 system

- The *Snrpb* gene is located on the Chr2. If the knockout mice are crossed with other mice strains to obtain double gene positive homozygous mouse offspring, please avoid the two genes on the same chromosome.
- This Strategy is designed based on genetic information in existing databases. Due to the complexity of biological processes, all risk of the gene knockout on gene transcription, RNA splicing and protein translation cannot be predicted at the existing technology level.

Gene information (NCBI)

Snrpb small nuclear ribonucleoprotein B [*Mus musculus* (house mouse)]

Gene ID: 20638, updated on 12-Aug-2019

Summary

- Official Symbol** Snrpb provided by [MGI](#)
- Official Full Name** small nuclear ribonucleoprotein B provided by [MGI](#)
- Primary source** [MGI:MGI:98342](#)
- See related** [Ensembl:ENSMUSG000000027404](#)
- Gene type** protein coding
- RefSeq status** VALIDATED
- Organism** [Mus musculus](#)
- Lineage** Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
- Also known as** SMB; SM-B; SM11; SNRNP-B; AL024368; AU018828
- Expression** Ubiquitous expression in ovary adult (RPKM 137.1), adrenal adult (RPKM 133.2) and 28 other tissues [See more](#)
- Orthologs** [human](#) [all](#)

Genomic context

Location: 2 F1; 2 63.19 cM

See Snrpb in [Genome Data Viewer](#)

Exon count: 8

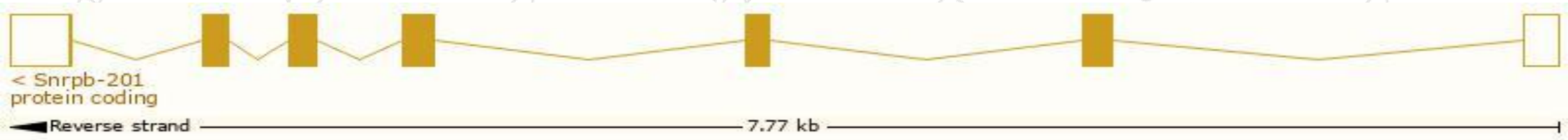
Annotation release	Status	Assembly	Chr	Location
108	current	GRCm38.p6 (GCF_000001635.26)	2	NC_000068.7 (130171636..130179382, complement)
Build 37.2	previous assembly	MGSCv37 (GCF_000001635.18)	2	NC_000068.6 (129997372..130005100, complement)

Transcript information (Ensembl)

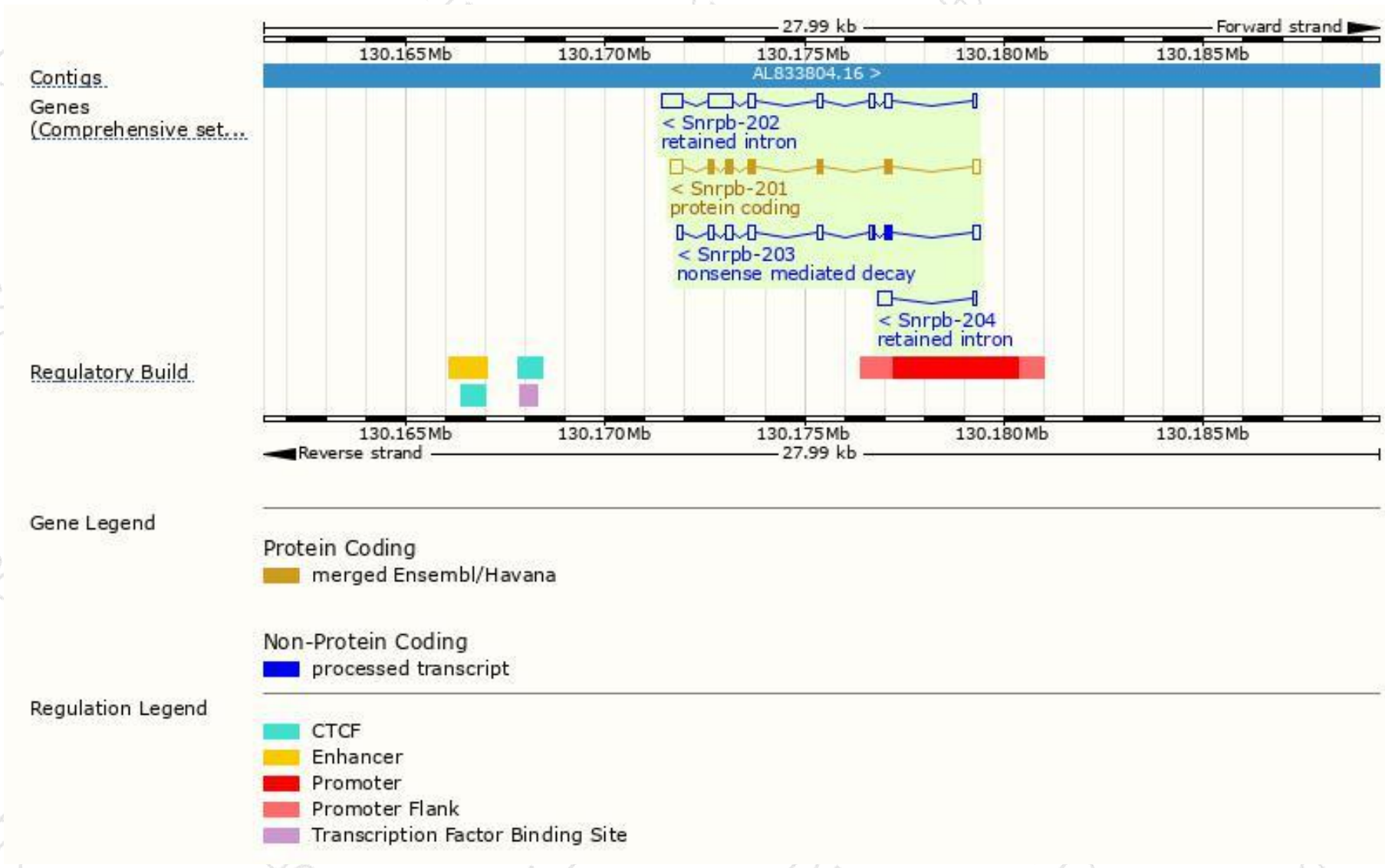
The gene has 4 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Snrpb-201	ENSMUST00000103199.8	1161	231aa	Protein coding	CCDS16735	P27048	TSL:1 GENCODE basic APPRIS P1
Snrpb-203	ENSMUST00000147570.2	1133	70aa	Nonsense mediated decay	-	A0A0G2JGN4	TSL:5
Snrpb-202	ENSMUST00000139225.7	1711	No protein	Retained intron	-	-	TSL:5
Snrpb-204	ENSMUST00000150835.1	416	No protein	Retained intron	-	-	TSL:2

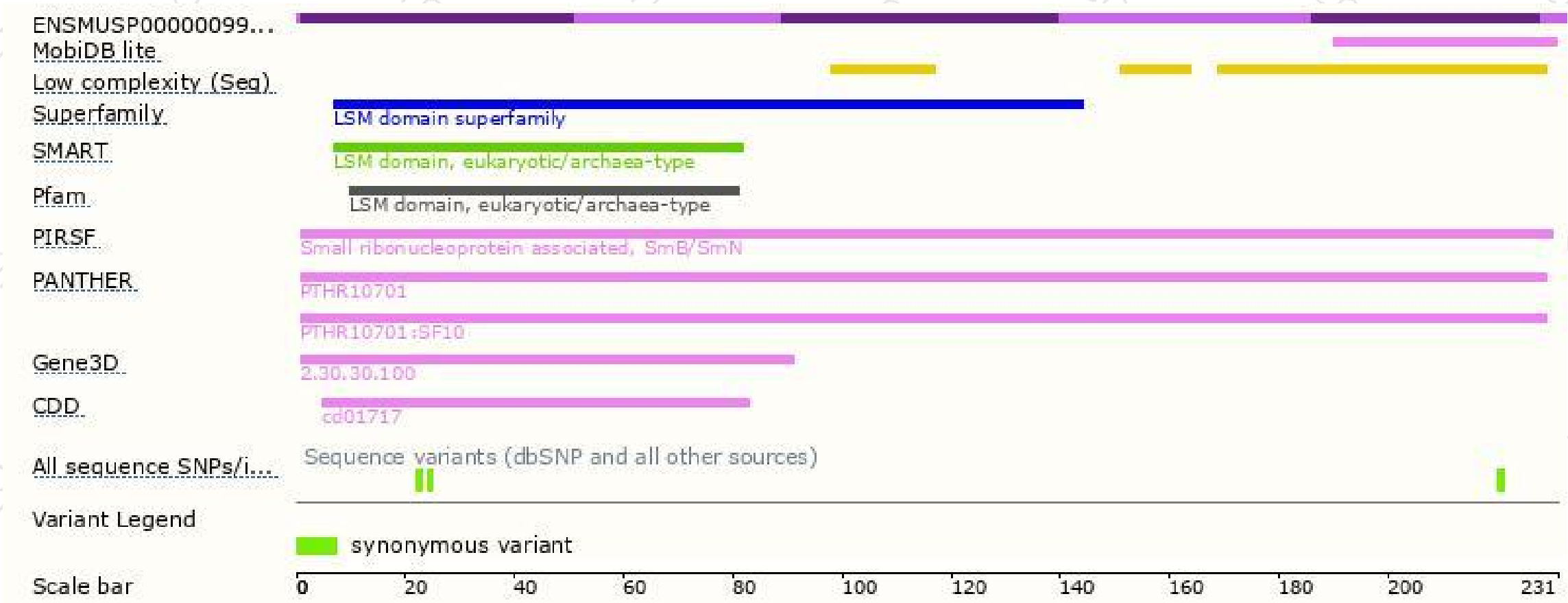
The strategy is based on the design of *Snrpb-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



If you have any questions, you are welcome to inquire.

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